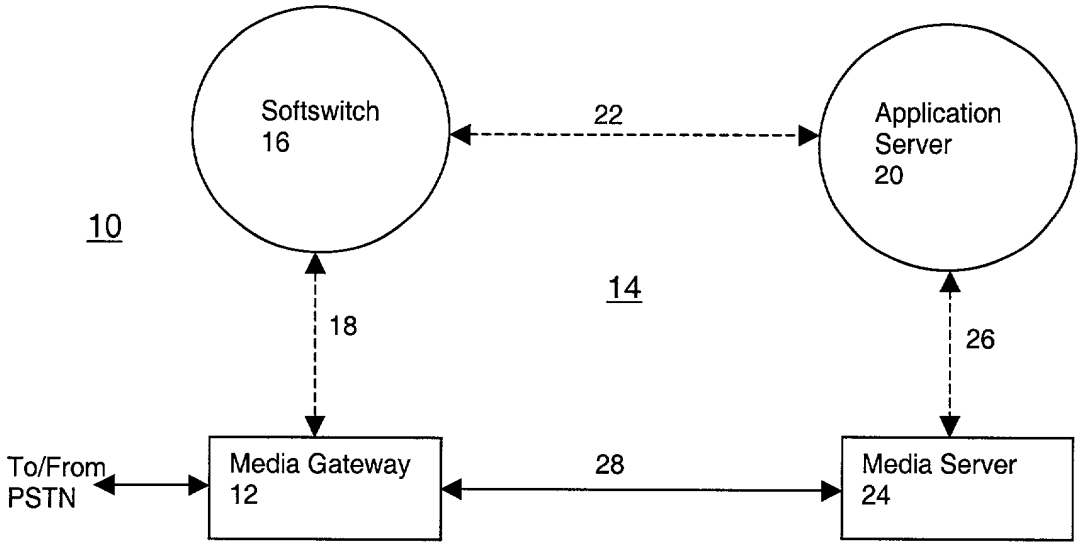
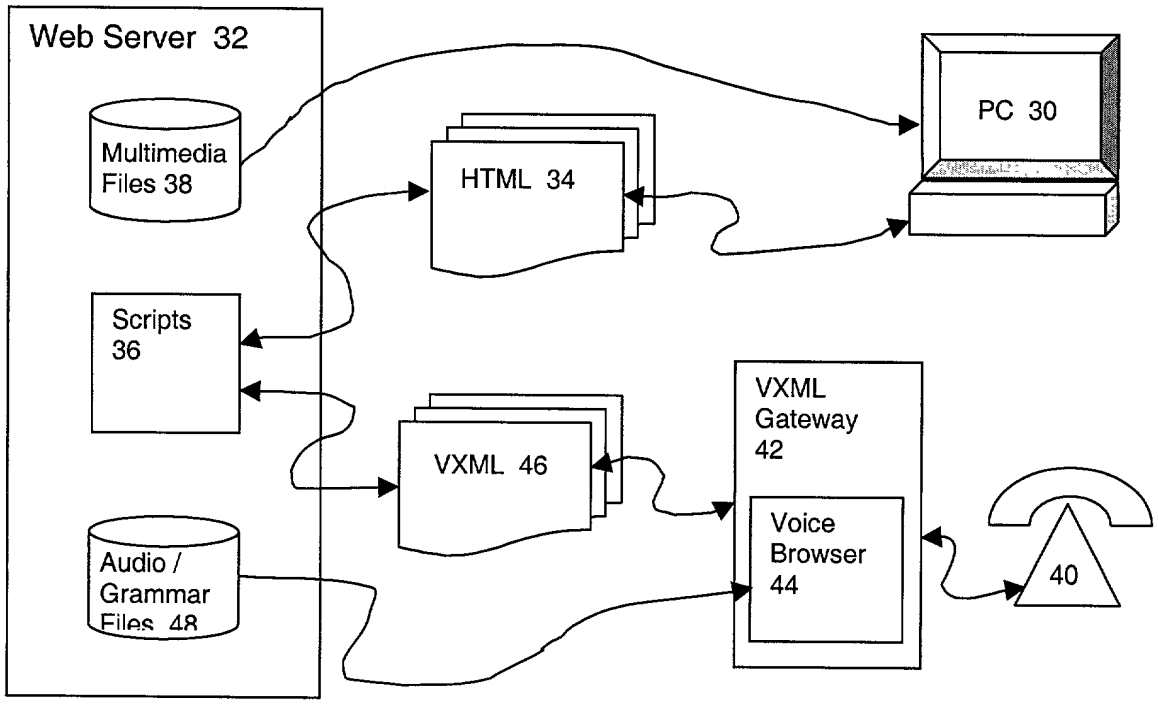

Softswitch
16
22
Application
Server
20
10
14
18
26
To/From
PSTN
Media Gateway
12
28
Media Server
24

Fig. 1

Fig. 2


Web Server 32
Multimedia
Files 38
HTML 34
PC 30
Scripts
36
VXML
Gateway
42
VXML 46
Voice
Browser
44
Audio /
Grammar
Files 48
40

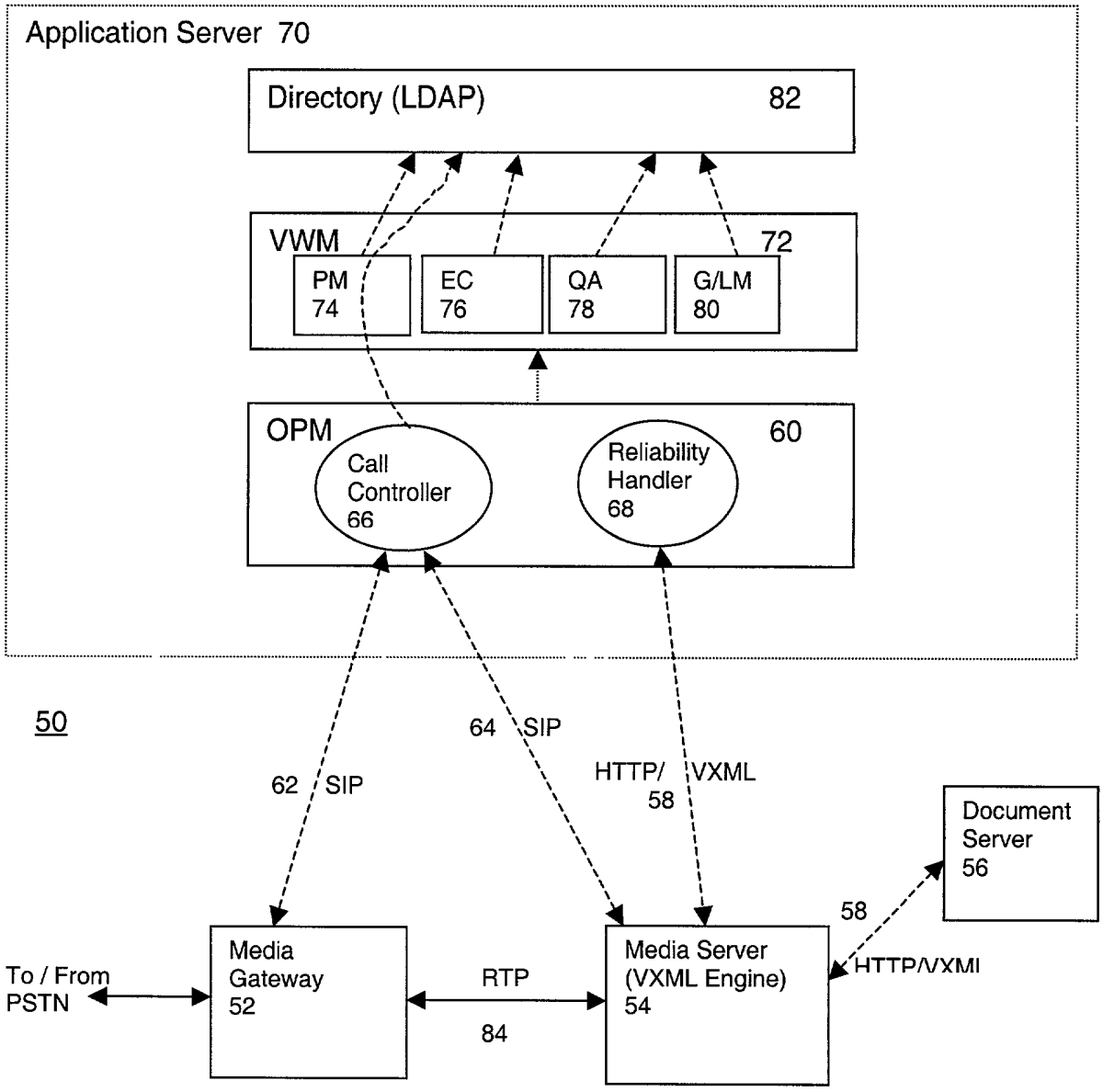

Application Server 70
Directory (LDAP)
82
VWM
72
PM
74
EC
76
QA
78
G/LM
80
OPM
60
Call
Controller
66
Reliability
Handler
68
50
62 SIP
64 SIP
HTTP/ VXML
58
Document
Server
56
58
HTTP/VXMI
To / From
PSTN
Media
Gateway
52
RTP
84
Media Server
(VXML Engine)
54

Fig. 3

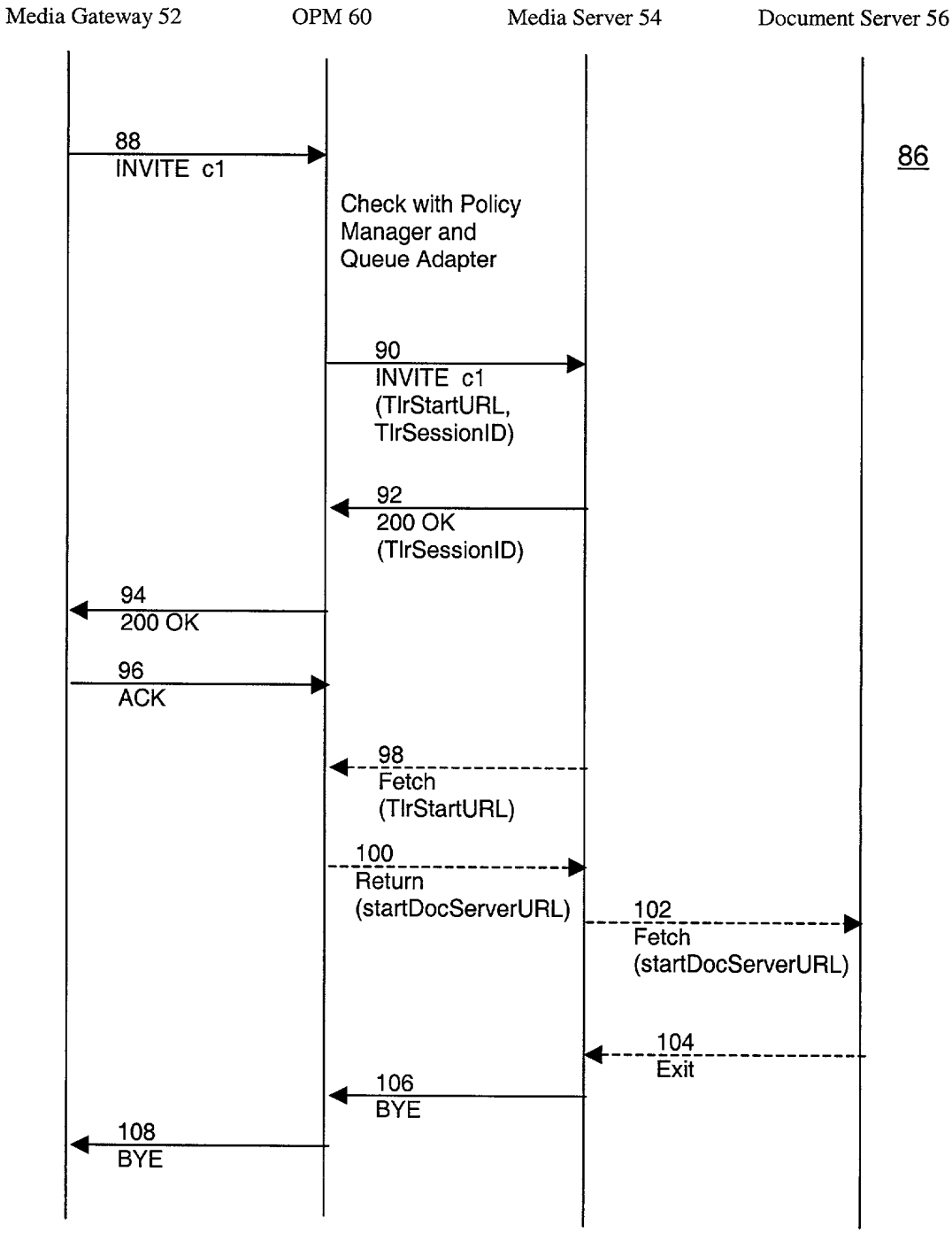

Media Gateway 52
OPM 60
Media Server 54
Document Server 56
86
88
INVITE c1
Check with Policy Manager and Queue Adapter
90
INVITE c1 (TlrStartURL, TlrSessionID)
92
200 OK (TlrSessionID)
94
200 OK
96
ACK
98
Fetch (TlrStartURL)
100
Return (startDocServerURL)
102
Fetch (startDocServerURL)
104
Exit
106
BYE
108
BYE

Fig. 4

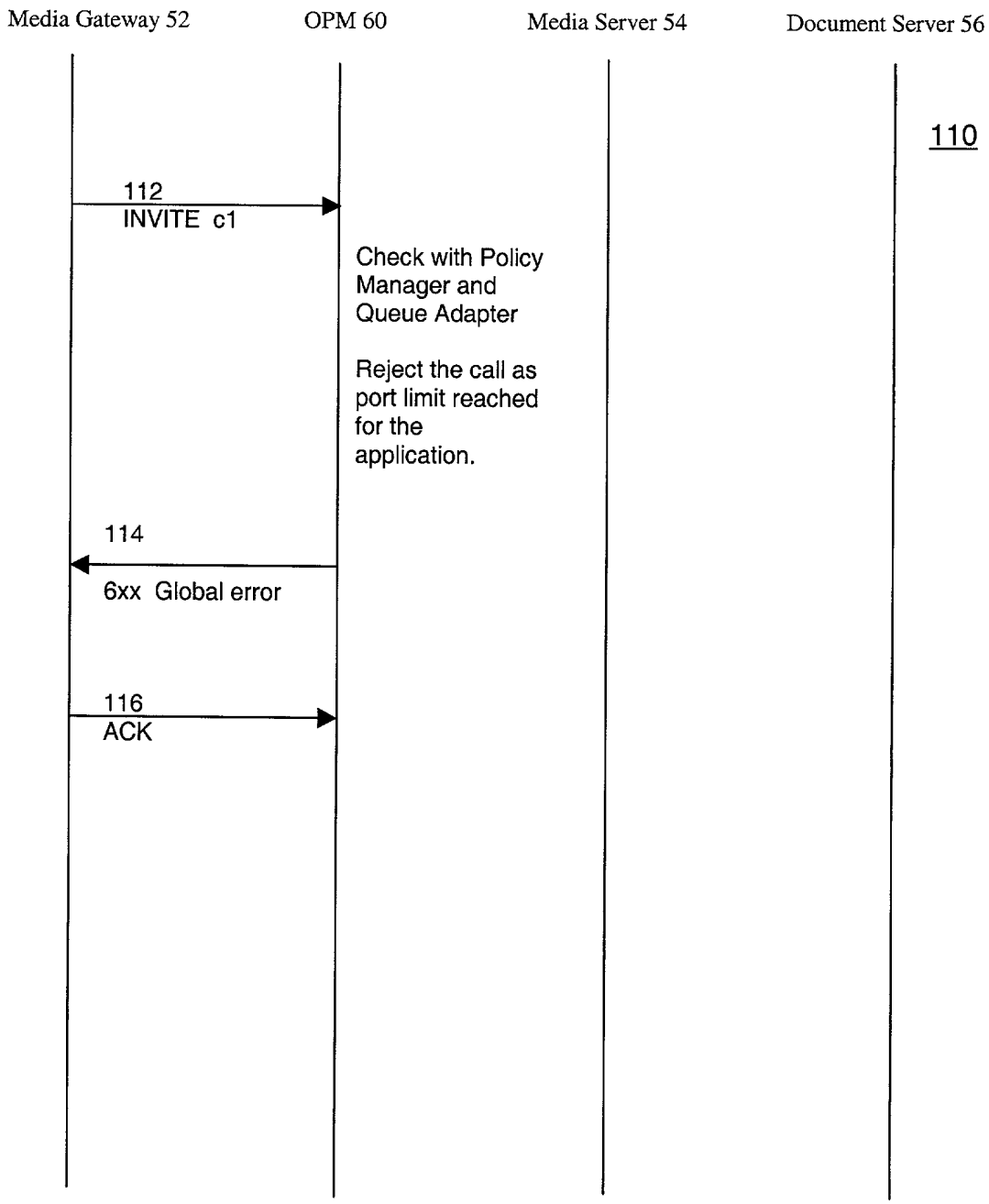

Media Gateway 52
OPM 60
Media Server 54
Document Server 56
110
112
INVITE c1
Check with Policy Manager and Queue Adapter
Reject the call as port limit reached for the application.
114
6xx Global error
116
ACK

Fig. 5

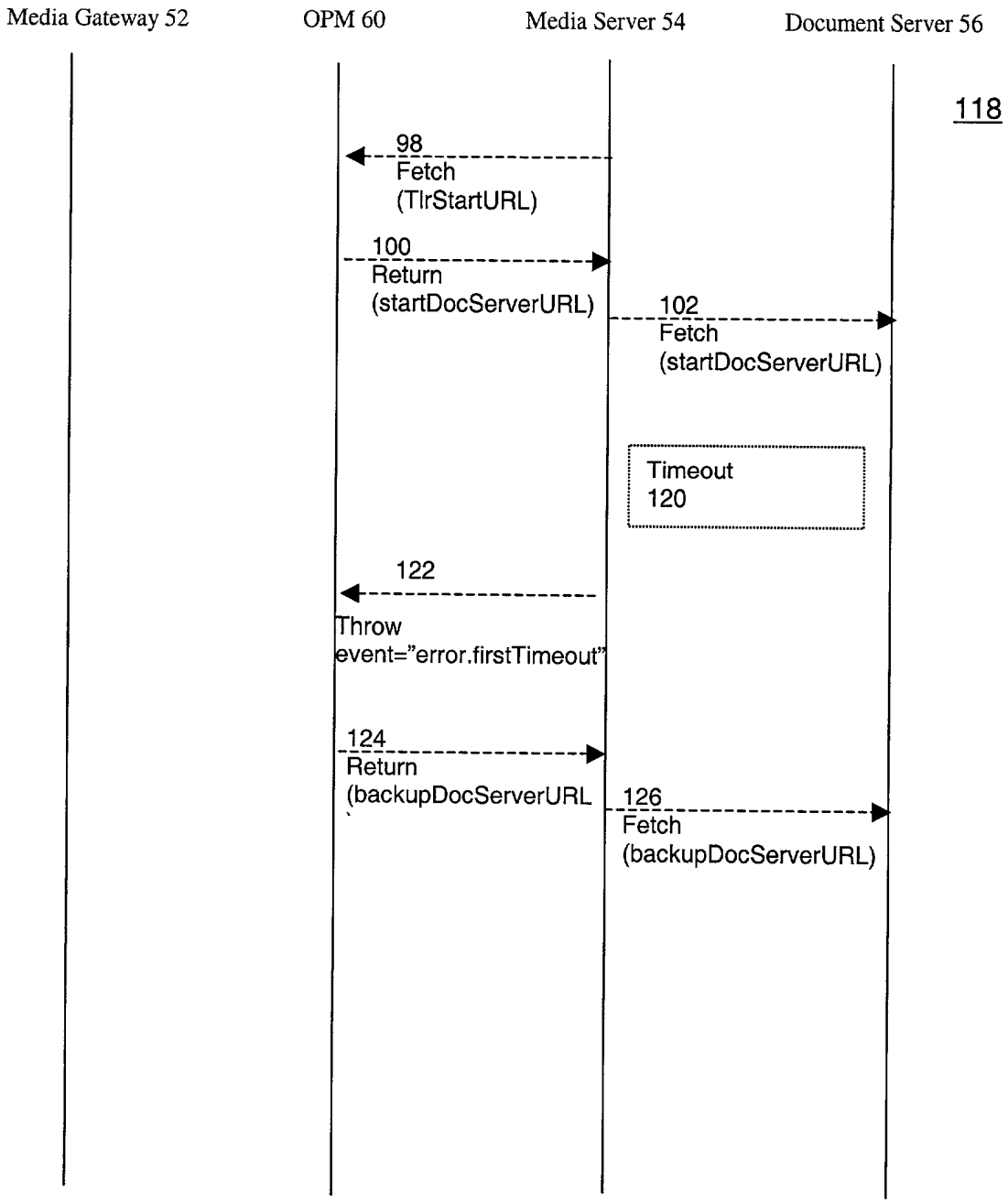

Media Gateway 52
OPM 60
Media Server 54
Document Server 56
118
98
Fetch
(TlrStartURL)
100
Return
(startDocServerURL)
102
Fetch
(startDocServerURL)
Timeout
120
122
Throw
event="error.firstTimeout"
124
Return
(backupDocServerURL
126
Fetch
(backupDocServerURL)

Fig. 6

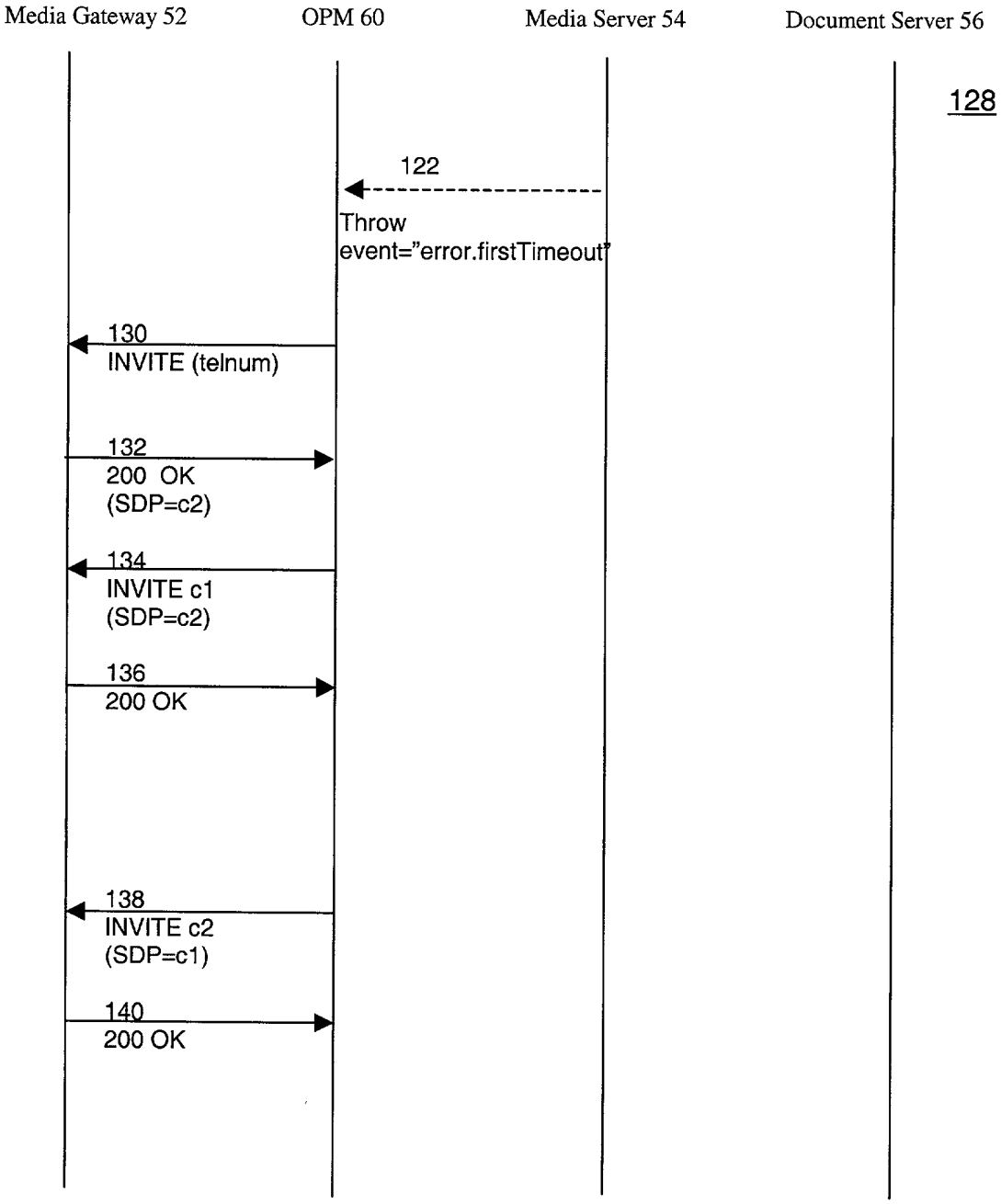

Media Gateway 52
OPM 60
Media Server 54
Document Server 56
128
122
Throw
event="error.firstTimeout"
130
INVITE (telnum)
132
200 OK
(SDP=c2)
134
INVITE c1
(SDP=c2)
136
200 OK
138
INVITE c2
(SDP=c1)
140
200 OK

Fig. 7

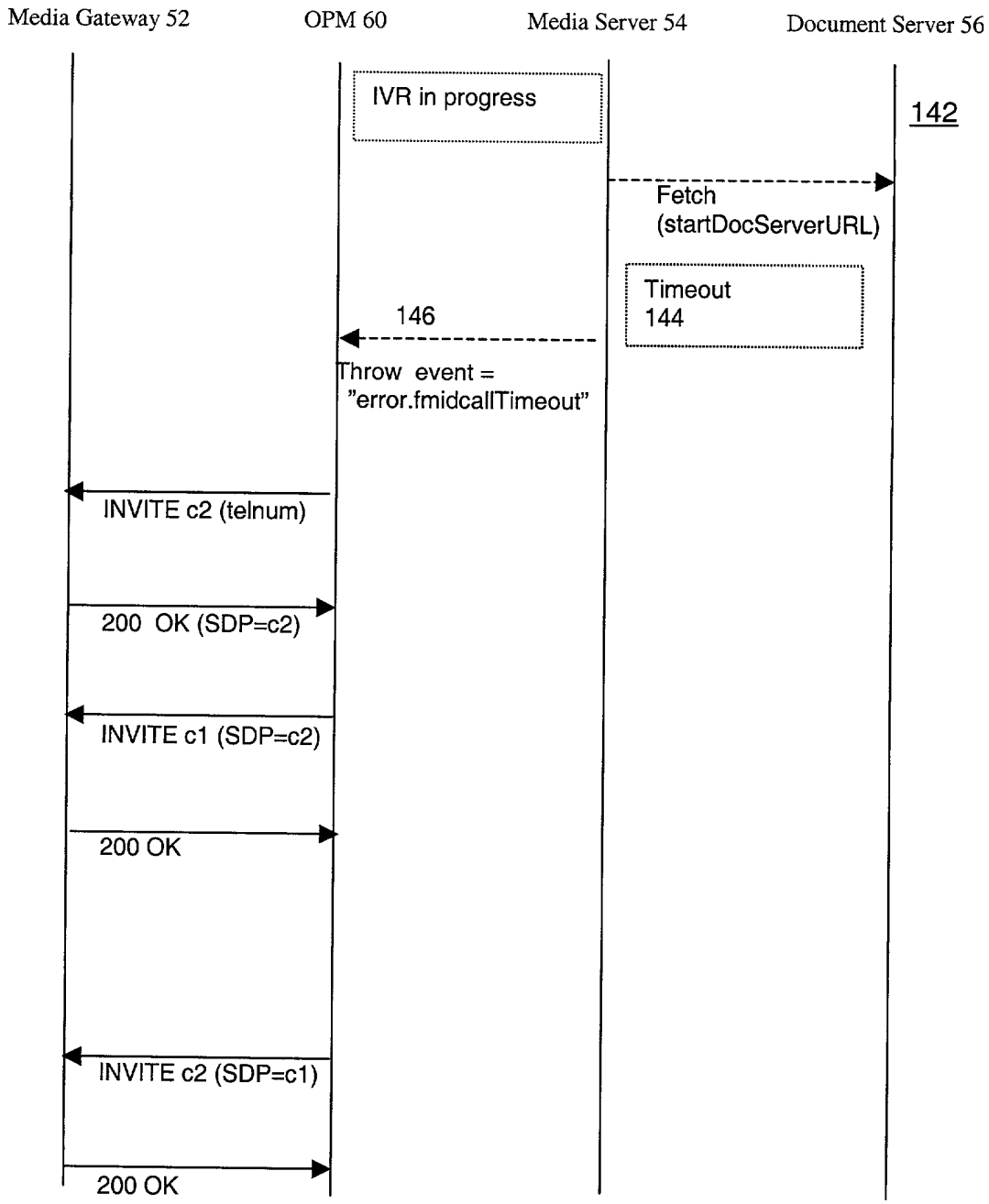

Media Gateway 52
OPM 60
Media Server 54
Document Server 56
IVR in progress
142
Fetch
(startDocServerURL)
Timeout
144
146
Throw event =
"error.fmidcallTimeout"
INVITE c2 (telnum)
200 OK (SDP=c2)
INVITE c1 (SDP=c2)
200 OK
INVITE c2 (SDP=c1)
200 OK

Fig. 8

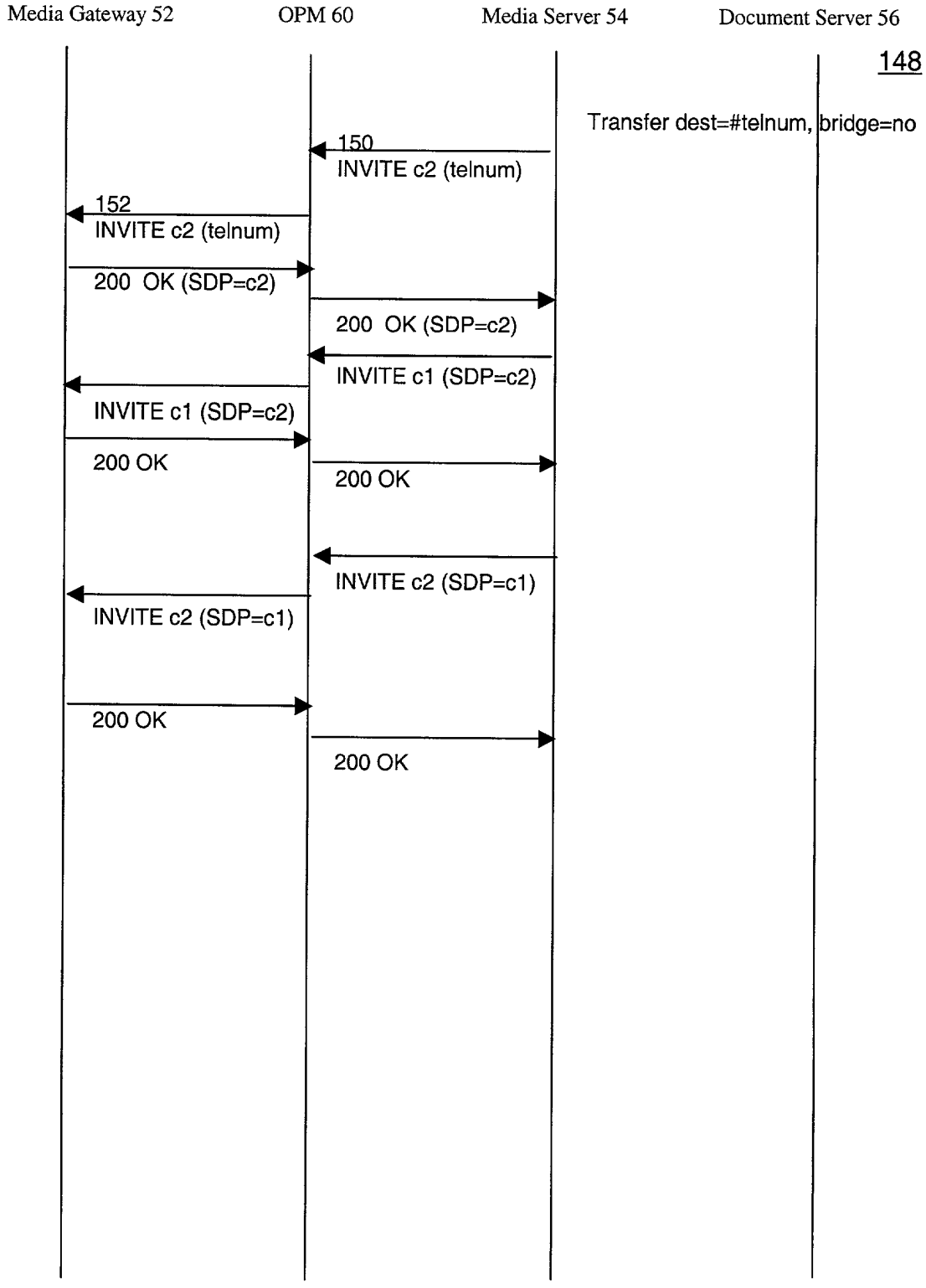

Media Gateway 52
OPM 60
Media Server 54
Document Server 56
148
Transfer dest=#telnum, bridge=no
150
INVITE c2 (telnum)
152
INVITE c2 (telnum)
200 OK (SDP=c2)
200 OK (SDP=c2)
INVITE c1 (SDP=c2)
INVITE c1 (SDP=c2)
200 OK
200 OK
INVITE c2 (SDP=c1)
INVITE c2 (SDP=c1)
200 OK
200 OK

Fig. 9

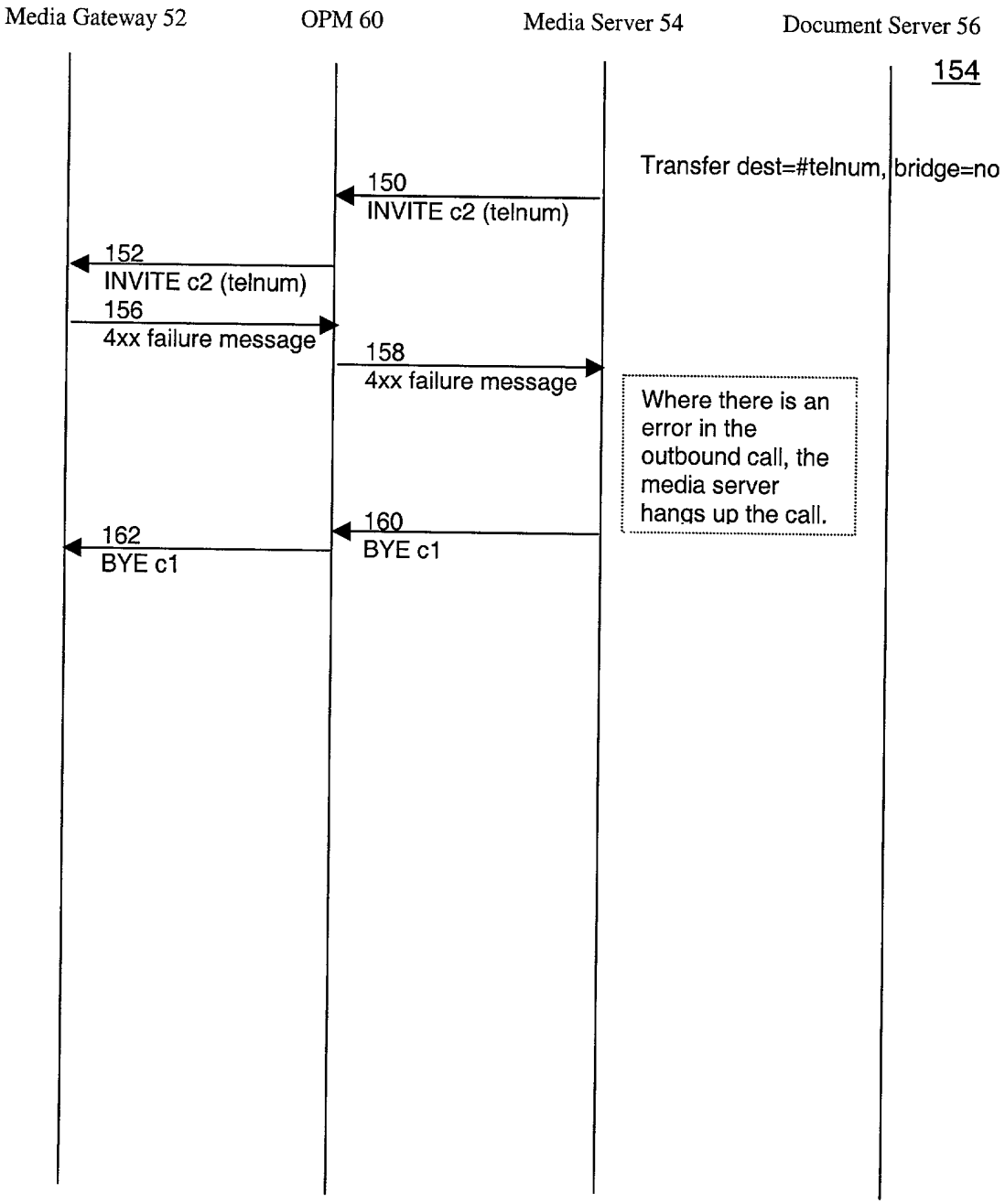

Media Gateway 52
OPM 60
Media Server 54
Document Server 56
154
Transfer dest=#telnum, bridge=no
150
INVITE c2 (telnum)
152
INVITE c2 (telnum)
156
4xx failure message
158
4xx failure message
Where there is an error in the outbound call, the media server hangs up the call.
160
BYE c1
162
BYE c1

Fig. 10

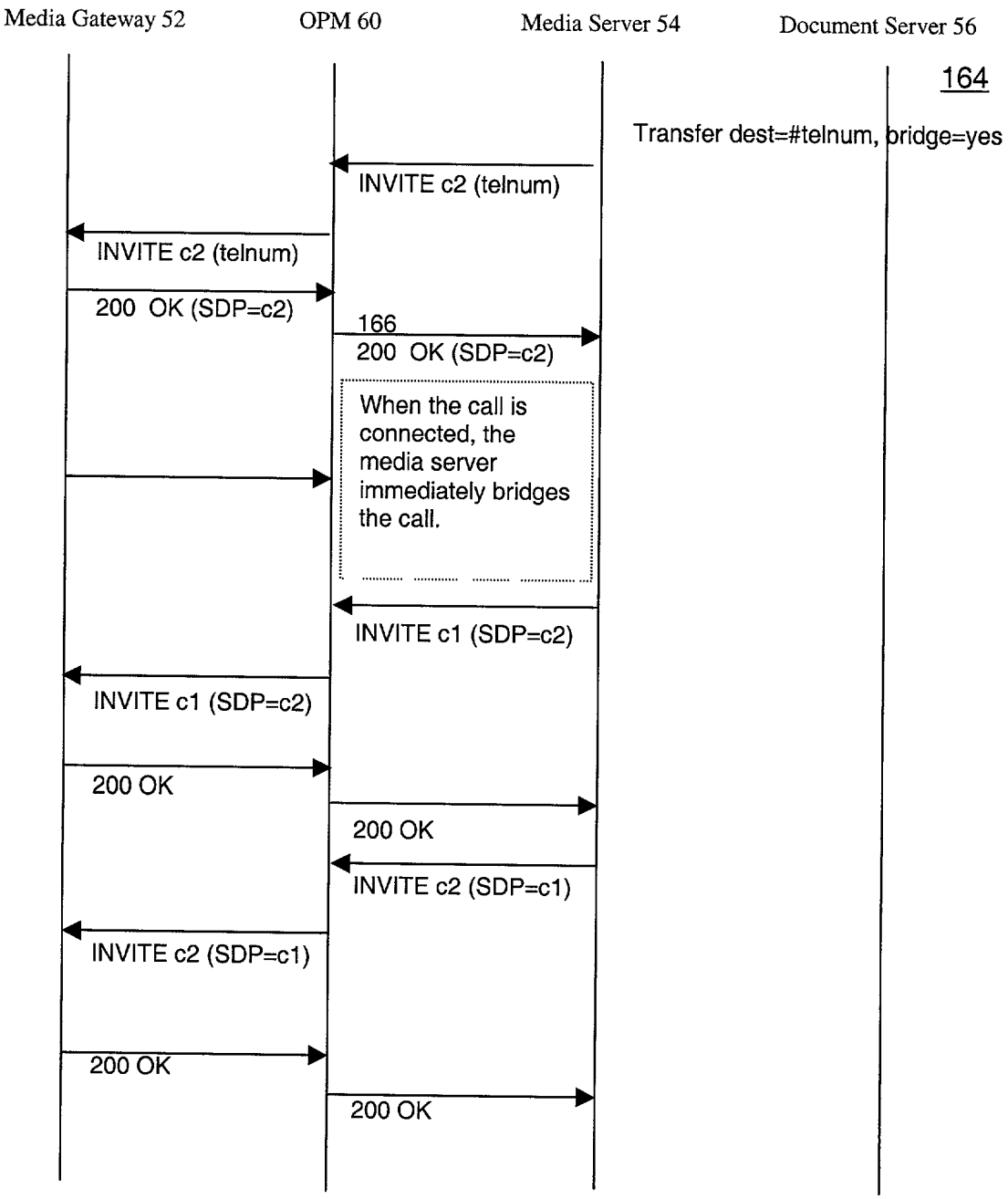

Media Gateway 52
OPM 60
Media Server 54
Document Server 56
164
Transfer dest=#telnum, bridge=yes
INVITE c2 (telnum)
INVITE c2 (telnum)
200 OK (SDP=c2)
166
200 OK (SDP=c2)
When the call is connected, the media server immediately bridges the call.
INVITE c1 (SDP=c2)
INVITE c1 (SDP=c2)
200 OK
200 OK
INVITE c2 (SDP=c1)
INVITE c2 (SDP=c1)
200 OK
200 OK

Fig. 11

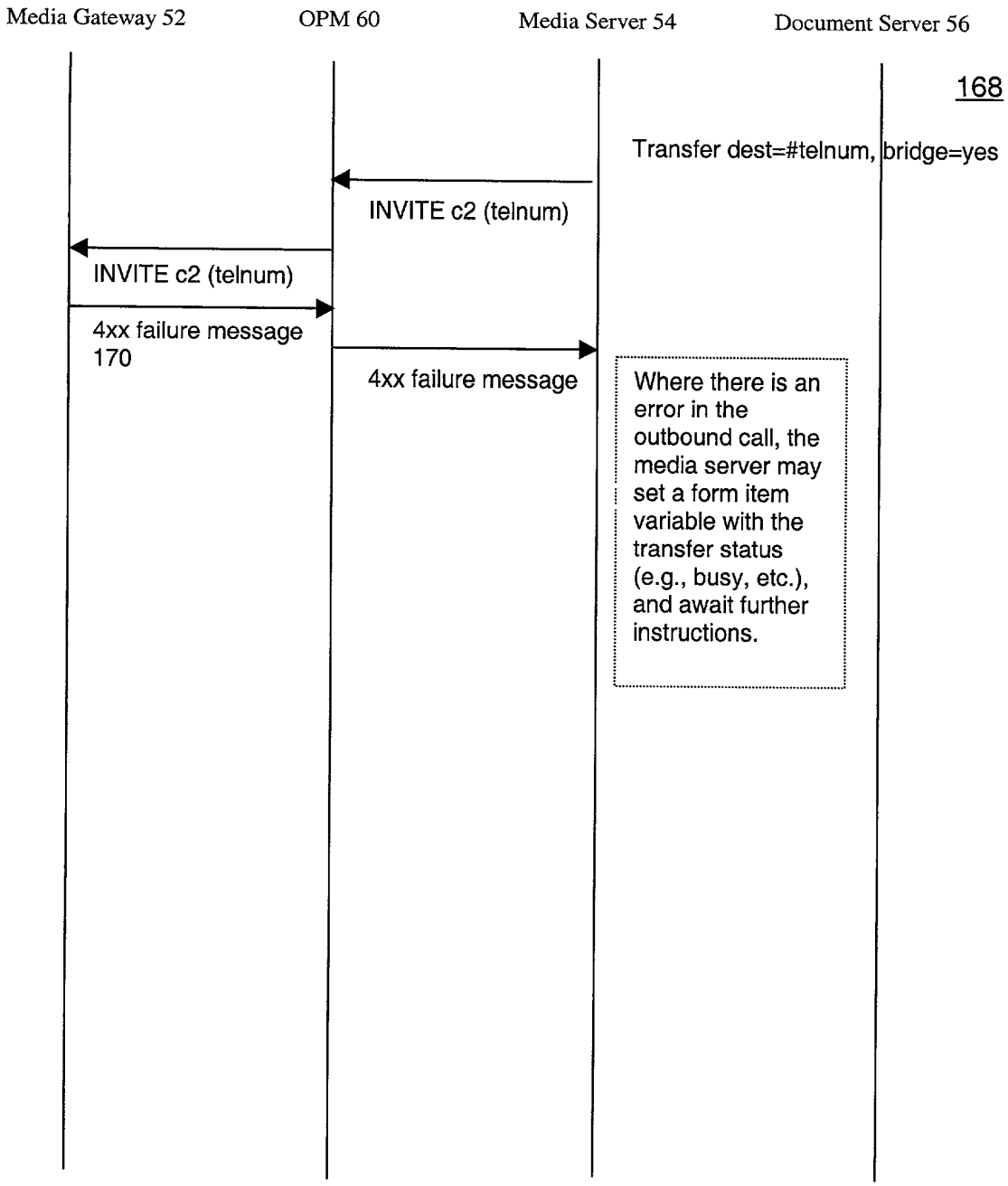

Media Gateway 52
OPM 60
Media Server 54
Document Server 56
168
Transfer dest=#telnum, bridge=yes
INVITE c2 (telnum)
INVITE c2 (telnum)
4xx failure message
170
4xx failure message
Where there is an error in the outbound call, the media server may set a form item variable with the transfer status (e.g., busy, etc.), and await further instructions.

Fig. 12

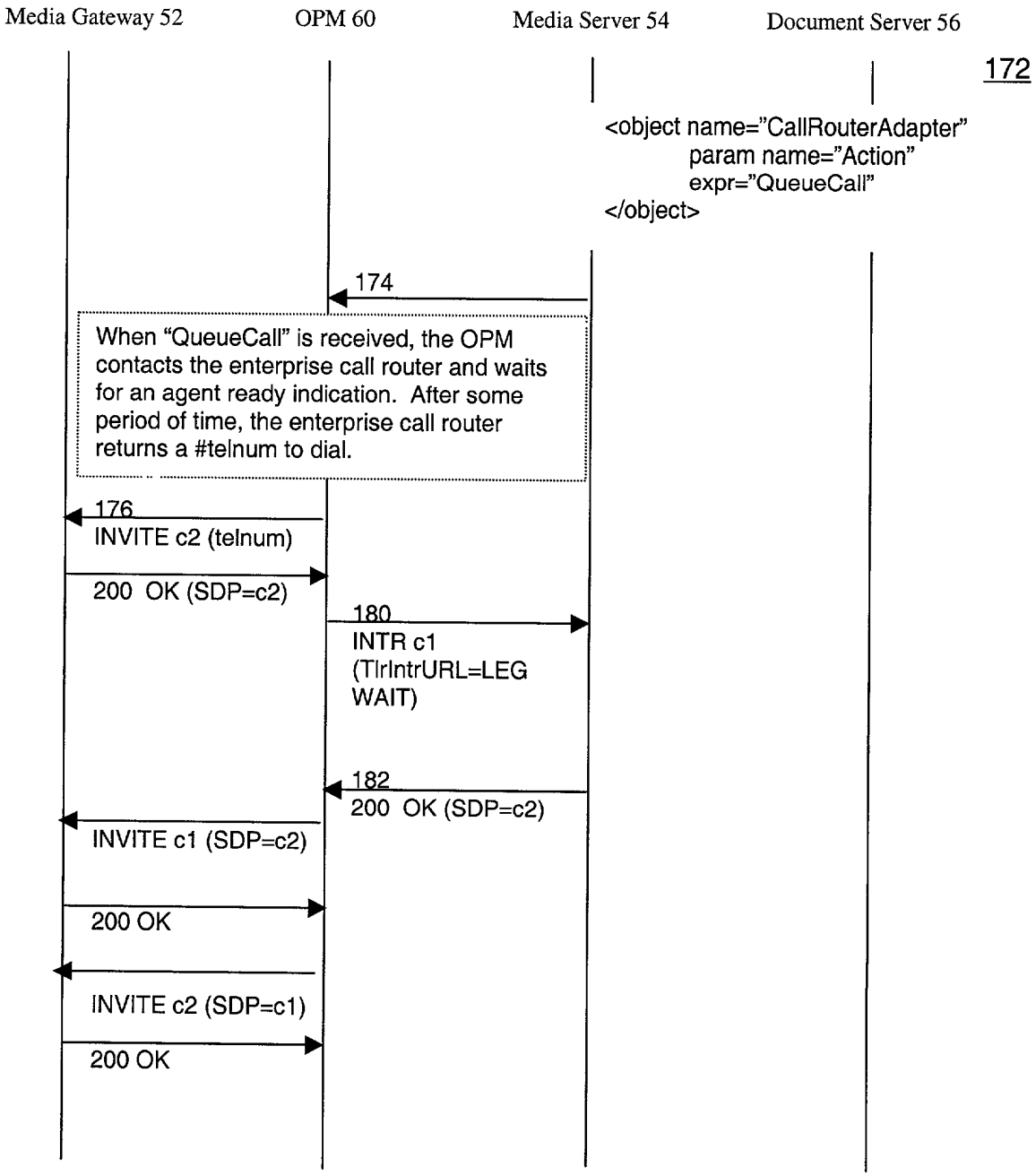

Media Gateway 52
OPM 60
Media Server 54
Document Server 56
172
<object name="CallRouterAdapter"
param name="Action"
expr="QueueCall"
</object>
174
When "QueueCall" is received, the OPM contacts the enterprise call router and waits for an agent ready indication. After some period of time, the enterprise call router returns a #telnum to dial.
176
INVITE c2 (telnum)
200 OK (SDP=c2)
180
INTR c1
(TIrIntrURL=LEG
WAIT)
182
200 OK (SDP=c2)
INVITE c1 (SDP=c2)
200 OK
INVITE c2 (SDP=c1)
200 OK

Fig. 13

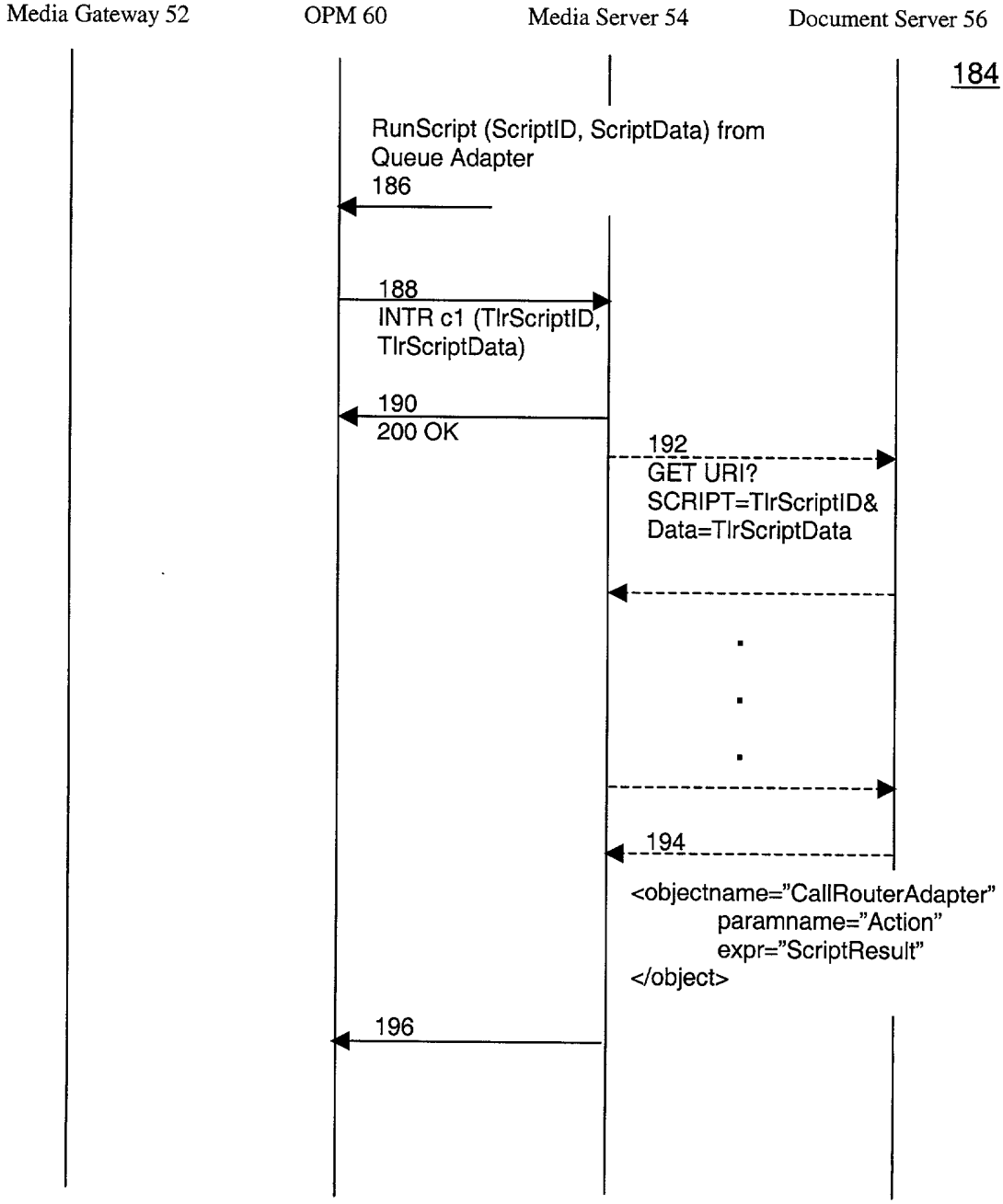

Media Gateway 52
OPM 60
Media Server 54
Document Server 56
184
RunScript (ScriptID, ScriptData) from Queue Adapter
186
188
INTR c1 (TIrScriptID, TIrScriptData)
190
200 OK
192
GET URI?
SCRIPT=TIrScriptID&
Data=TIrScriptData
194
<objectname="CallRouterAdapter"
paramname="Action"
expr="ScriptResult"
</object>
196

Fig. 14

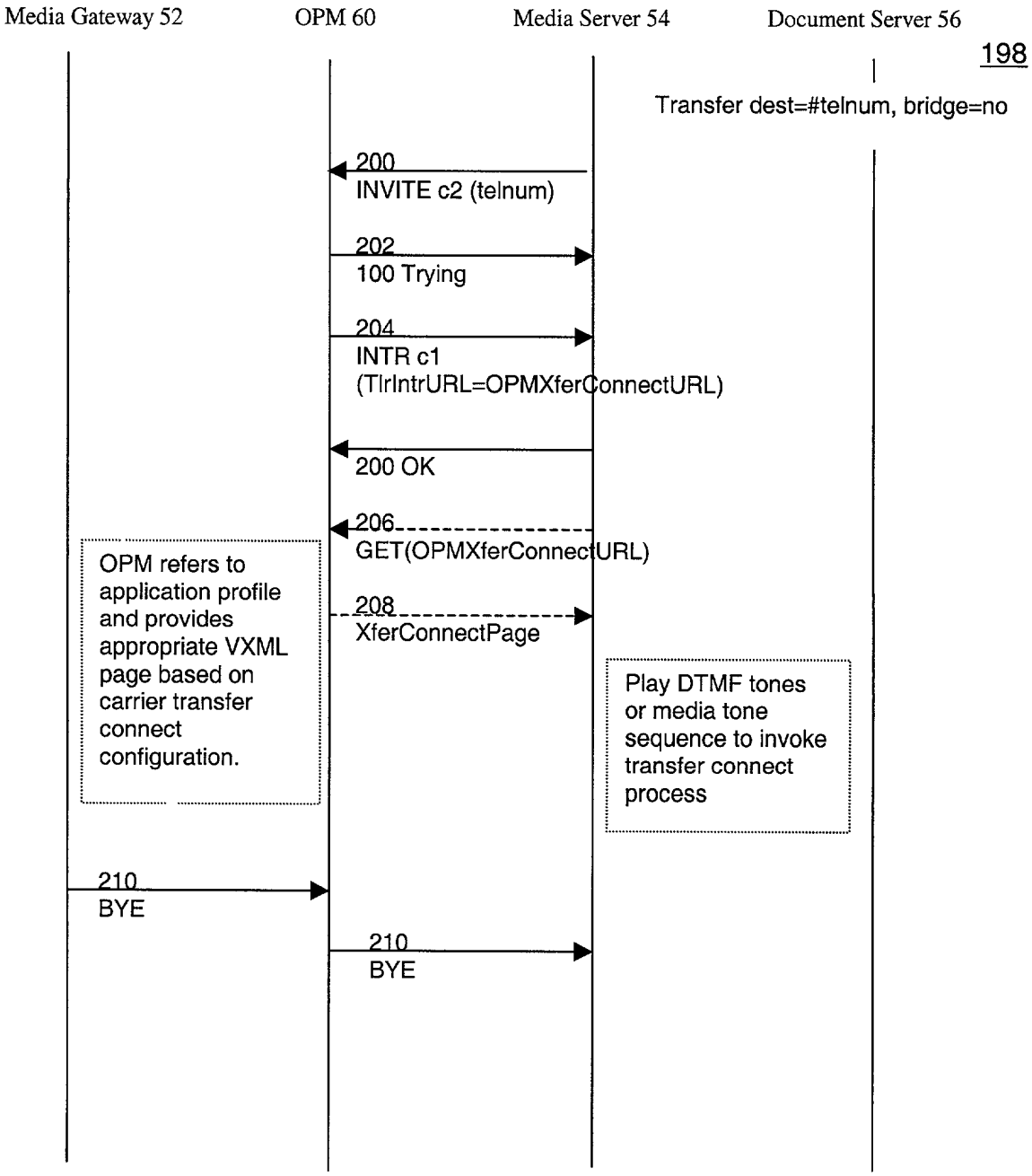

Media Gateway 52
OPM 60
Media Server 54
Document Server 56
198
Transfer dest=#telnum, bridge=no
200
INVITE c2 (telnum)
202
100 Trying
204
INTR c1
(TlrIntrURL=OPMXferConnectURL)
200 OK
206
GET(OPMXferConnectURL)
OPM refers to application profile and provides appropriate VXML page based on carrier transfer connect configuration.
208
XferConnectPage
Play DTMF tones or media tone sequence to invoke transfer connect process
210
BYE
210
BYE

Fig. 15